Appendix A

Vendor Data Sheet

Appendix A

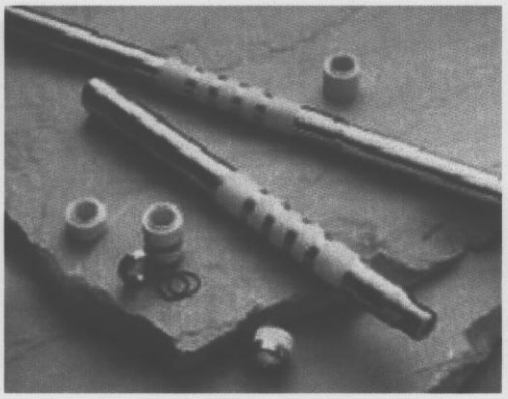
Vendor Data Sheet

APPLIED RESEARCH ASSOCIATES, INC.

Soil Moisture and Resistivity

Soil Moisture Measurement Capabilities

ARA's Soil Moisture/Resistivity Module takes advantage of the relationship between the soil dielectric constant and the moisture content. This relationship, known as Topp's Equation, is not heavily influenced by soil type and resistivity if the dielectric measurements are performed above a critical frequency. The soil moisture content, or the volumetric percentage of water in soil, is determined measuring the frequency shift of a high frequency excitation signal as it passes through the soil.



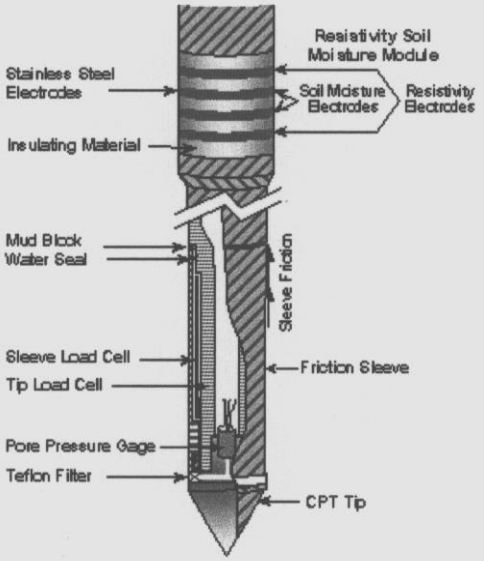
Resistivity Measurement Capabilities

Resistivity surveys measure the electrical contrasts between different geological materials. Recently, resistivity measurements have been used for characterization on contaminated sites using the difference in electrical resistivity in contaminated and uncontaminated soils.

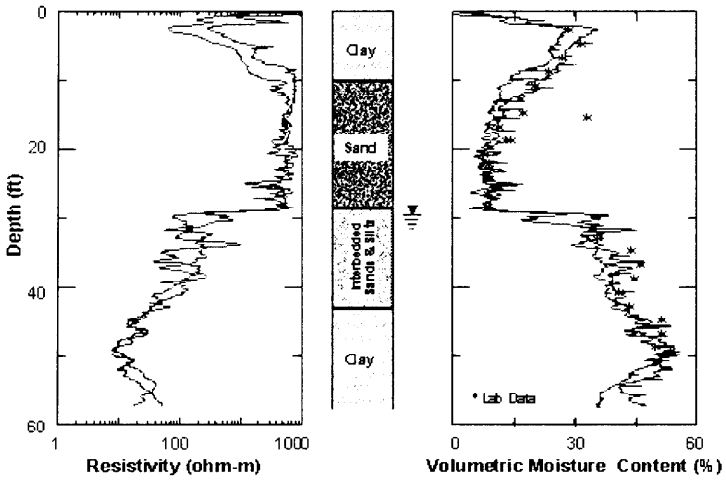
SMP Probe Features

- Simultaneous Measurement of Soil Resistivity and Apparent Dieletric (ε_a)
- Correlation of Dielectric to θ (volumetric soil moisture)
- For Saturated Sites, Porosity = θ
- Dielectric Measured at 100 MHz, Hence Minor Influenece of Conductivity on ε_a
- SMP Outputs Voltage Directly into A/D System

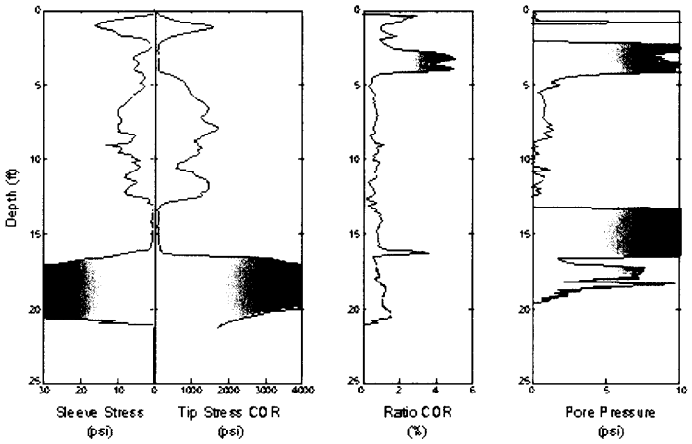
SMP-CPT Probe



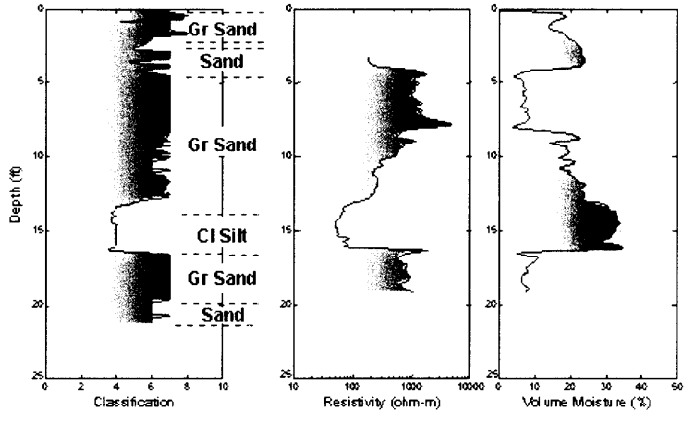
SMP Data Obtained During a Field Trial Showing Resistivity and Soil Moisture Profiles



CPT Sounding



Soil Classification / Soil Moisture Probe



415 Waterman Road, South Royalton, Vermont 05068
Ph: (802) 763-8348, Fax: (802) 763-8283